

**REMARKS**

Reconsideration of this application is respectfully requested in view of the foregoing amendments and the following remarks.

By the foregoing amendments, claims 41 and 53 are amended. Support for the amendments can be found in the specification and in the claims as originally filed. No new matter is added. Claims 32-107 are currently pending in the application and subject to examination. Claims 32, 34, 36, 38-40, 42, 43, 45, 46, 48, 49, 51, 52, 54, 55, 57 and 58 are currently withdrawn from consideration.

The Office Action rejects claim 41 under 35 U.S.C. § 112, second paragraph, as being indefinite for containing asserted informalities. The Office Action asserts that there is insufficient antecedent basis for the limitation "the polishing pad" in claim 41 (Office Action, page 2, paragraph 4). Applicants submit that this rejection is overcome in view of amended claim 41. Thus, Applicants respectfully request that this rejection be withdrawn.

Claim 33 is rejected under 35 U.S.C. § 102(b) as anticipated by Tanaka et al. (U.S. Patent No. 5,718,620).

Tanaka et al. teach "recesses/ribs (30) on the back side of the table, temperature adjusting fluid (14), the recesses acting as a flow path for the fluid" (Office Action, pages 2 and 3, paragraph 6) in combination with the reference table holder (29) fixed to the polishing table (Figure 8, Table (2a)).

Applicants respectfully submit that the present invention is distinguishable from Tanaka et al. Claim 33 discloses "[A] polishing apparatus comprising a polishing table

and a work holding plate, wherein a work held on the work holding plate is polished supplying a polishing agent solution, and the polishing table is formed in one-piece by casting ...” The polishing table of claim 33 has a “plurality of recesses and/or a plurality of ribs ... provided on a rear surface thereof,” such that “a flowpath for a temperature adjusting fluid is formed inside of the polishing table, and portions in each of which the flow path is not formed act as an internal rib structure.”

Applicants respectfully submit that claim 33 is not anticipated as Tanaka et al. does not teach or suggest a “polishing table formed in one-piece by casting” (claim 33), such that the “plurality of recesses and/or a plurality of ribs on a rear surface thereof” are also formed within the one-piece polishing table (Specification, page 35, lines 4-14).

The polishing table of the presently claimed invention is “higher in strength, and hence can suppress thermal deformation and deformation caused by a pressure of cooling water into a lower level” (Specification, page 11, lines 15-25). The flow path of claim 33 also has an improved cooling effect as the cooling fluid can “distribute more widely ... (for temperature adjustment), enlarge a heat transfer area, reduce a pressure loss along the flow path, and then flow a larger amount of the fluid...” (Specification, page 12, lines 5-10).

The polishing table of claim 33 also has the advantage in that it is “possible to make the polishing table thinner in the total thickness and lighter in the weight” (Specification, page 12, lines 1-2). “Due to the thinner structure of the polishing table, distances between the surface of the table and the cooling water flow path can be made shorter, thereby a cooling effect being improved ...” (Specification, page 12, lines 10-

13). The thinner structure also allows “displacement of an upper surface of the polishing table relative to a reference plane can be restricted to 100  $\mu\text{m}$  or less at any point thereof, 30  $\mu\text{m}$  or less by further adopting various kinds of structures of the present invention..., and 10  $\mu\text{m}$  or less in an ideal state” (Specification, page 12, lines 13-17).

Applicants respectfully submit that the 35 U.S.C. § 102(b) rejection over Tanaka et al. is overcome by the above remarks. Thus, Applicants respectfully request that this rejection be withdrawn.

Claims 35, 37, 53 and 56 are rejected under 35 U.S.C. § 103(a) as being obvious over Tanaka et al. (U.S. Patent No. 5,718,620) in view of Jimbo et al. (U.S. Patent No. 6,475,068). Please see the above discussion of the teachings of Tanaka et al.

Applicants submit that amended claim 53 clearly defines which surface of the holder is a rear surface.

Applicants agree with the Examiner that Tanaka et al. do not disclose that the polishing table is made of a material with a thermal expansion coefficient of  $5 \times 10^{-6}/^\circ\text{C}$  or less and corrosion resistance almost equal to that of stainless steel (claim 35), that the material is invar (claim 37), or that the work holder is made of SiC (claim 56) and has recesses on a rear surface thereof opposite said working surface (claim 53) (Office Action, page 3, lines 19-25).

Applicants respectfully submit that Jimbo et al. does not satisfy the deficiencies of Tanaka et al. Applicants note that Jimbo et al. was filed in the U.S. on March 21, 2000. Jimbo et al. can only be used as prior art based on the March 21, 2000, U.S.

filings date. Applicants further note that the present application claims priority to Japanese Application 2000-022591 filed January 31, 2000. Applicants enclose a verified translation of the Japanese Application 2000-022591 priority document.

Thus, Applicants respectfully submit that Jimbo et al. is not a proper prior art reference. Applicants respectfully request that this rejection be withdrawn.

Claims 41 and 59 are rejected under 35 U.S.C. § 103(a) as obvious over Tanaka et al. (U.S. Patent No. 5,718,620) in view of Morimoto et al. (U.S. Patent No. 5,127,196). Please see the discussion of the teachings of Tanaka et al. above.

Applicants agree with the Examiner that Tanaka et al. do not disclose that the temperature changes of the table are controlled to be 10°C or less (claim 41), or that the work holder has vacuum holes for adhering the work to the holder (claim 59) (Office Action, page 4, paragraph 10).

Morimoto et al. teach maintaining the temperature at approximately 10°C throughout the polishing process (Morimoto et al., column 4, lines 15-30), and keeping the backside of the substrate in contact with the bottom of the carrier by a vacuum (Morimoto et al., column 3, lines 49-51).

Applicants respectfully submit that Morimoto et al. do not satisfy the above deficiency of Tanaka et al. as Morimoto et al. do not teach the claimed temperature range and vacuum holes. Further, Applicants respectfully submit that it would not have been obvious to those of ordinary skill to provide Tanaka et al. with a work holder with vacuum holes to securely hold the work and prevent slippage.

Applicants respectfully submit that the above argument distinguishing claim 33 from Tanaka et al. overcomes the 35 U.S.C § 103(a) rejection of claims 41 and 59 over Tanaka et al. in view of Morimoto et al. If independent claim 33 is patentable, dependent claims 41 and 59 should be patentable as well.

Applicants also submit that with the removal of Jimbo et al. as a reference in the above-discussed 35 U.S.C. § 103(a) rejection, claim 56 is patentably distinct. As such, claim 59, which is dependent on claim 56, is nonobvious as well. Further, Applicants respectfully submit that the brief disclosure of holding the substrate in contact with the carrier by a vacuum in Morimoto et al. does not teach or suggest the vacuum holes of claim 59. A vacuum can be utilized by methods other than the vacuum holes of claim 59.

Thus, Applicants respectfully submit that the 35 U.S.C. § 103(a) rejection over Tanaka et al. in view of Morimoto et al. is overcome as the combination of these references is insufficient for those of skill in the art to create the presently claimed invention.

Claims 44, 47 and 50 are rejected under 35 U.S.C. § 103(a) as being obvious over Tanaka et al. (U.S. Patent No. 5,718,620). Please see above discussion of the teachings of Tanaka et al.

Applicants agree with the Examiner that Tanaka et al. do not teach the range of the rotational unevenness of the table (claim 44) or the range of the rotational distortion of the table (claims 47 and 50) (Office Action, pages 4 and 5, paragraph 11). Further, Applicants respectfully submit that it would not have been obvious to those of ordinary

skill in the art to keep the rotational evenness of the table of Tanaka et al. to less than 1%, and the range of rotational distortion to less than 15 or 30 microns.

Regardless, Applicants respectfully submit that the above argument distinguishing independent claim 33 from Tanaka et al. overcomes the 35 U.S.C § 103(a) rejection of claims 44, 47 and 50 over Tanaka et al. If independent claim 33 is patentable, dependent claims 44, 47 and 50 are patentable as well.

For all of the above reasons, Applicants respectfully submit that the pending claims are patentability distinguishable over the cited references. Accordingly, reconsideration and withdrawal of the outstanding rejections and an issuance of a Notice of Allowance are earnestly solicited.

Should the Examiner determine that any further action is necessary to place this application into even better form, the Examiner is requested to telephone the undersigned representative at the number listed below.

In the event this paper is not considered to be timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for this extension, together with any additional fees that may be due with respect to this paper, may be charged to counsel's Deposit Account No. 01-2300, referencing docket number 107242-00023. The Commissioner is hereby authorized to charge any fee deficiency or credit any

overpayment associated with this communication to Deposit Account No. 01-2300,  
referencing docket number 107242-00023.

Respectfully submitted,

ARENT FOX KINTNER PLOTKIN & KAHN, PLLC



Amy E. L. Schoenhard  
Attorney for Applicants  
Registration No. 46,512

Customer No. **004372**  
ARENT FOX KINTNER PLOTKIN & KAHN, PLLC  
1050 Connecticut Avenue, N.W., Suite 400  
Washington, D.C. 20036-5339  
Tel: (202) 857-6000  
Fax: (202) 638-4810

Enclosure: Verified Translation of Priority Document

TECH/215842.1